Order No.: DD+DIS101.02E

1 Piece U67OB MA1

ADC System Components

Type 4406

Software Installation Instructions for VIPS.1.2.00

Upgrade from VIPS.1.1.09 to VIPS.1.2.00

This modification instruction is also enclosed to the upgrade kit EB+44060008.

Necessary time:
approx. 3 – 4 hours

printed in Germany 05 / 2002

AGFA

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1 General Information

1.1 Software Prerequisites

ADC Compact Digitizer:	≥ COP_1308,
ADC Solo Digitizer:	≥ SOL_1302
PRID (Preview & Identification SW):	≥ PRID 1.2.09
CCM Tool	≥ 1.1.06

1.2 Main Changes in VIPS.1.2.00*

- Support of DI4500 printer
- New interpolation (NIP) for non-MG3 printers implemented (needed for DI 4500)
- "Advanced Annotation" option introduced
- “Auto Reboot“ is re-introduced and is configurable now
- JPEG compression for images to PACS destination
- New functions in maintenance
- Various full leg/full spine issues solved
- “Big Log-file “ problem solved
- All film format printing introduced (e.g. A4 print format is supported now)

* For further details see chapters 5 - 7 of this document.

1.3 Hardware Prerequisites

Experience has shown that 128 MB RAM is the absolute minimum for the Processing Station. However, for a good performance (UI speed, UI stability) 256 MB RAM memory is recommended. The Processing Stations delivered so far, have been equipped with 256MB RAM. From VIPS.1.2.00 on, production will install 512 MB RAM as default.
The system is only tested with 27 GB hard disk space for images. AGFA does not guarantee a smooth working if more hard disk space for images is used. As the swap space has been increased at least a 2 GB HD is needed to store the Operating System and the Application plus approximately 100 images.

1.3.1 RAM Memory Upgrade to 512 MB

For systems in the field, which shall be upgraded to VIPS.1.2.00, Agfa recommends the memory upgrade to 512 MB RAM under the following conditions:

1. Connecting a DI4500 to the system.
   (It will be possible to order the memory upgrade together with DI4500)
2. Performing online auto-processing printing to non-MG3 printers at a high throughput

3. Any form of printing to non-MG3 printers is combined with heavy-load UI functionality.

A memory upgrade is not possible with Ultra 1 Processing Stations. Performance and stability will be drastically reduced, if you run such a system under the conditions mentioned above.

In those cases, we recommend to replace Ultra 1 by Ultra 10.

1.3.2 Hard Disk Management

Because more disk size is necessary to install the operating system Solaris 2.8 (partitions mounted as '/' and '/usr') and mimosa system (partition mounted as '/opt'), less disk size is available for the images partition on the system disk (partition mounted as '/images'). On upgrading this can cause a problem, because the images on the system disk are backed up and restored.

To make sure upgrading from VIPS 1.0.xx or VIPS 1.1.xx to VIPS 12.xx with preservation of images is successful, you need at least 600 MB of free storage space on the image disks before starting the upgrade. MIM_upgrade script makes sure that on image partition of system disk is enough (600 MB) disk size free resp. will be cleared, to be able to install VIPS 1.2.00 and Solaris 2.8. Procedure is described in 2.1 Preparing Actions of this document.

On systems with only one 2 GB-disk (mostly Ultra 1), only 500MB will be available for images anymore after upgrade of which part will be kept free by the autodelete-function. Adding disk space on this systems is recommended.

1.4 Configuration

1.4.1 CPF – File adaptation with CCM Tool 1.1.06

If the site only uses MG3-printers (LR3300, LR5200, DI2000, DI3000), nothing has to be changed in the configuration.
If the site uses non-MG3-printers, the ADC configuration has to be updated by changing the cpf-file (described in 2.4 of this documentation).
The PRID-Station has to run software version PRID 1.2.09 or higher.

1.4.2 ADB – Tool

The ADB Tool has to be re-activated manually after the upgrade (see Appendix B).
The ADB Tool configuration is not preserved automatically if you upgrade from VIPS 1.1.XX or elder versions. If you want the configuration to be used on the upgraded system as well, it has to be copied manually, see 2.1 Preparing Actions of this documentation.

1.4.3 Interpolation NIP / XIL

VIPS 1.2.00 provides two types of interpolation for hardcopies. The interpolation mode is configurable. They are only applied for non-MG3 layouts. For MG3 layout printers the interpolation mode is selected on the printer itself.

For DI4500 the NIP interpolation is mandatory due to image quality reasons.

In VIPS 1.1.xx or elder versions always XIL was used. However, after upgrade to VIPS 1.2.00 the interpolation mode is set to NIP. This may have impact on image quality of the non MG3 printer connected and also on performance of the system. If image quality and/or performance was accepted by the user it is advisable to set the interpolation mode back to XIL.

1.5 Released Options

So far the following options have been released:

OPTION	Released	New in VIPS.1.2.00
Interactive processing SW	Yes	No
ADCC Autorouting SW	Yes	No
ADCC Uro Tomo SW	Yes	No
ADCC Pediatric SW *	Yes	No
ADCC Dental SW *	Yes	No
ADCC Full leg / spine SW	Yes	No
ADCC Smart Print SW **	Yes	No
ADCC Annotation SW	Yes	No
ADCC Black Border SW	Yes	No
ADCC Dose Monitoring SW	Yes	No
ADCC Auto QC SW	Yes	No
ADCC Dicom Store Connection SW	Yes	No
ADCC Softcopy Toolkit SW	Yes	No
PS5000 upgrade to ADCC	Yes	No
ADCC PRID on UNIX SW	No	No
ADC Advanced Annotation SW	Yes	Yes

* To add exams for this licenses, you have to use CCM 1.1.06 or higher.

** The former options “ADCC Overview Printing SW” and “ADCC Slide Printing SW” are replaced by one Software package ➔ “ADCC Smart Print SW”

1.6 Release Environment

These versions on the hardcopy devices and the IMPAX Stations (and subsequent releases respectively) guarantee that all functions on the Processing Station are supported properly. Other combinations have not been tested and may result in restrictions in functionality.

LR5200	≥ LTP01901
LR5200 Controller	≥ AOS32946 /C ≥ CAD32946 /C ≥ ECU32947 /C
DICOM	≥ DCM2.3.4/C
IMPAX	≥ R3.5_v.2.4.0/C

1.7 Performance - Image Input Rate

A Processing Station can handle an input of 140 images scanned with standard resolution. This means that one Processing Station is able to handle two ADC Compact Digitizers at full load under the following conditions:

- The images are standard resolution.
- There are not more than 27GB memory space for images hooked to the Processing Station.
- Images are only autorouted to one output device (either HCP or PACS destination).

It is also possible to connect maximum three ADC Compact digitizers to one Processing Station. However, this reduces the possible workload on each digitizer accordingly. It is not recommended to connect more than three digitizers to one Processing Station.

In fact, the performance may vary considerably depending on the tasks run on the Processing Station.

1.8 Scope of Delivery Software Kit VIPS.1.2.00

Order No.: EB+44060008

2 CD ROM	MIMOSA VIPS 1.2.00 and MIMOSA OS AGOS.A.0.8.00
1 floppy disk	Language Disk LNG1.0.08 for VIPS1.2.00 or higher
1 floppy disk	Empty disk for the upgrade procedure
2 DAT-tapes	Necessary for backup of system disk
1 CD ROM	CCM tool 1.1.06 or higher
1 floppy disk	Printer definition files PRN.A.3.0.02 or higher
1 documentation	Upgrade procedure (document on hand)
1 documentation	Application note CR Systems: VIPS 1.2 Software

1.9 Required Time for the Upgrade

As it takes a very long time, a backup of the images should be avoided. The customer should be asked before the service intervention to sort out as many images as possible, i.e. he either prints hardcopies or sends the images to PACS.

The upgrade itself takes max. 90 minutes (depends strongly on the speed of the CD ROM drive). The upgrade can be done with or without saving and restoring the images from the System Disk.

If images have to be saved, a complete System Backup will be done, which also includes a backup of the Operating System and MIMOSA. This needs at least 1h (without calculating saving time needed for the images).

It takes about 50 minutes / 100 images to save them to and restore them from DAT-tape (calculated with an average image size of 5.9MB).

Example for a 2.1GB system disk:
90 min for mere upgrade + 100min for 200 images = 190min = 3hours 10min

Example for a 4.2GB system disk:
90 min for mere upgrade + 260 min for 520 images = 330min = 5hours 30min

Reduce the upgrade time as far as possible. Remove all the images (also OFLS) the customer does not need any more on the Processing Station.

If no images have to be saved only a site specific backup will be created.

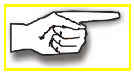
1.10 Useful Accessories

Cleaning tape
DAT-tape Necessary if “Offline” images have to be saved.

2 Upgrade Procedure

2.1 Preparing Actions

2.1.1 Deleting / Moving old Images

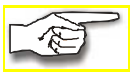


ADC application and background must be active while the MIM_upgrade script is running.
Steps 1 - 12 are only necessary if the images on the system disk are needed again after the upgrade.

During the MIM_upgrade all OFL-files will be deleted! If they are needed afterwards, save them before the upgrade on a DAT-tape.

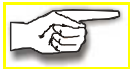
No.	Procedure Steps	Display / Comment
1.	Use the System Monitoring "`Disk`" dialog to check the free amount of MBytes on each "Images" disk	
2.	Delete as many images as possible (at least a total amount of 600 MBytes has to be free on the "Images" disks) and also empty the waste bin.	
3.	Insert Upgrade CD "AGOSA0800"	File manager starts automatically
4.	Double click s0 Double click SYSTEM Double click AGOSA0800 Double-click `MIM_upgrade`	
5.	Click `<OK>` in window "`Run`"	
6.	Enter `<y>` to remove all OFL-files	If you enter `<n>` it aborts the action.
7.	Run MIM_upgrade; it will move as many images from the system disk images partition to other images partitions as possible until there is enough free space on the system disk for upgrade	
8.	If MIM_upgrade returns with the question to free more disk space: do so; if it says it is ok to upgrade via the maintenance menu: follow the upgrade procedure as described in the following parts of the documentation	

2.1.2 Checking DAT-drive and Network settings



Steps 9 – 11 are only necessary if the images on the system disk are needed again after the upgrade.

No.	Procedure Steps	Display / Comment
9.	Insert cleaning tape into DAT-tape drive and wait until it is ejected again.	
10.	Check if the DAT-tape drive is accessible: • Switch on DAT-tape drive • go to <Maintenance>, enter password and hit <Return> Type: **4** to select Tools and hit <Return> **1** to select Terminal and hit <Return>	A new terminal window appears.
11.	Enter **mt -f /dev/rmt/0lb rewind** in the terminal window. (how to write: **0lb** – "zero", "l" as in Lima, "b")	If you get no response and just return to the prompt everything is ok. If you get the response "No tape loaded or drive offline" everything is ok. If you get the response "No such device or address" the DAT-tape drive is connected on the wrong SCSI connector on the rear of the Processing Station. Please shut down the Processing Station and connect your DAT-tape drive
12.	Close terminal window by entering <Exit>	



If the DAT-tape drive is not connected to the correct SCSI port, the backup and restore of the images will fail.

13.	Go to <Maintenance>, enter password and hit <Return>	

No.	Procedure Steps	Display / Comment
14.	Select: **3** to select `Repair` and hit `<Return>` **4** to select `SystemInfo` and hit `<Return>`	Check and write down the current hostname, current Ip-address and netmask of the Processing Station. This data will be needed during the software upgrade.

15.	Move to the section "`Workstation Networking Environment`" in the system information. The following information should appear:	`Workstation Networking Environment`
		
		`Workstation : vips220 192.9.200.220`
		`Broadcast : 192.9.200.255`
		`Netmask : 255.255.255.127`

16.	Write down the Hostname of the Processing Station (= Workstation) (in the above example "**`vips220`**").	

Solaris 2.8, on which VIPS 1.2.00 is run, will not accept hostnames containing underscores ('_'). If the machine has such a hostname, you will first have you change it by editing the CPF file, loading the CPF file and changing the hostname to the new hostname.

17.	Write down the IP address of the Workstation (in the above example "**`192.9.200.220`**").	
18.	Write down the Netmask of the Processing Station (in the above example "**`255.255.255.127`**"). This field maybe empty if no subnet mask is used.	
19.	Select: **q** to exit this menu and hit `<Return>`	

2.1.3 Saving ADB Configuration

The ADB Tool configuration is not preserved automatically if you upgrade from VIPS 1.1.XX or elder versions. You have to copy the database.txt file manually. If you do not use ADB step 20. and 21. can be skipped.

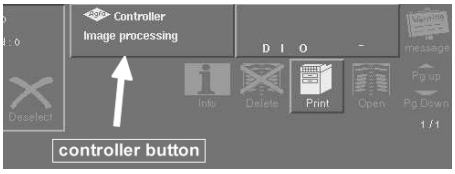
No.	Procedure Steps	Display / Comment
20.	Open a Terminal window Go to <Maintenance>, enter password and hit <Return> Type: **4** to select Tools and hit <Return> **1** to select Terminal and hit **<Return>**	A new terminal window appears.
21.	Save the file /home/mimosa/irc/adb/database.txt to floppy	

2.2 Upgrade to VIPS.1.2.00

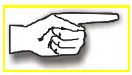
No.	Procedure Steps	Display / Comment
1.	Select: **2** to select `Install` and hit `<Return>` twice **2** to select `Software` and hit `<Return>` **2** to select `Upgrade` and hit `<Return>`	`If the question „Remove all OFL-files" appears answer it with <yes>` `Take a System disk Backup on tape now? [yes, no, ?,skip]:`
2.	Insert an empty DAT-tape into the DAT-tape drive and wait until the green LED on the DAT-tape drive stops flashing.	
3.	Enter `<yes>` to take a system disk backup	`SaveArea backup on floppy or tape [floppy, tape, ?, q]:`
4.	Enter `<q>` to quit	`Ok to reboot from cdrom [yes, no, ?, q]:`
5.	Enter `<yes>`	`Mount bootable CDROM`
6.	Insert the CD ROM with "AGOSA0800" into CD ROM drive	
7.	Hit `<Return>`	Boot sequence starts Booting from CD ROM may take some minutes
8.	Select: **1** to select `Install` and hit `<Return>` **1** to select `Upgrade` and hit `<Return>`	`Install O.S. software from ./SYSTEM/ AGOSA0800 [yes,no,?,q]:`
9.	Enter `<yes>`	The Solaris installation program starts now. The `Solaris Installation Program` window appears
10.	Hit `<Continue>`	The `Identify This System"` window appears
11.	Hit `<Continue>`	The `Network Connectivity` window appears

No.	Procedure Steps	Display / Comment
12.	Hit <yes> and hit <Continue>	The following window appears only with ULTRA SPARC 1 hardware and if a fast ethernet board is installed. Here you can choose between hme0 (= 100mbit/10mbit auto sensing) or le0 (= 10 mbit onboard). We recommend to select hme0. The Primary Network Interface window appears
13.	Select <hme0> and hit <Continue>	The use DHCP window appears
14.	Select <No> and hit <Continue>	The Hostname window appears
15.	Enter the hostname (as noted before) and hit <Continue>.	The IP address window appears
16.	Enter the IP-address and hit <Continue>.	The Enable Ipv6 window appears
17.	Select <No> and hit <Continue>	The confirm information window appears
18.	Check if the entries are correct and confirm by hitting <Continue>.	The configure Kerberos Security window appears
19.	Select <No> and hit <Continue>	The confirm window appears
20.	Check if the entries are correct and confirm by hitting <Continue>.	The name service window appears
21.	Select <None> and hit <Continue>	The confirm window appears
22.	Check if the entries are correct and confirm by hitting <Continue>.	The subnet window appears
23.	If a subnet mask is used hit <yes> and then enter the old subnet mask (as noted before), otherwise hit <no> and <Continue>.	The Time Zone window appears
24.	Select <Geographic region> and <set>.	The Geographic region window appears

No.	Procedure Steps	Display / Comment
25.	Select <Local Region> and <Time zone> and hit <Continue>.	The Date and Time window appears
26.	Modify <Date> and <Time> if not correct. and hit <Continue>.	The Confirm information" window appears
27.	Check if the entries are correct and confirm by hitting <Continue>.	Successful system configuration is confirmed by the message "System identification is completed." Now the Solaris operating system files are copied to the Processing Station. After about 15 minutes it will be rebooted automatically. After a few minutes the following message is displayed. Please log on as root and enter: /mimosa.install Hit <return> to continue
28.	Hit <Return>	vips220 console login:
29.	Enter **root**	Password:
30.	Enter password	
31.	Enter **/mimosa.install** and hit <Return>	OK to run with option upgrade[yes, no, ?, q]:
32.	Enter **yes**	Restore directory /images from tape [yes, no, ?, q]: appears
33.	Insert the backup DAT-tape into the drive (if not already in) and wait until the green light stops flashing	
34.	Enter **yes** to restore old images	Message Put the CD into CD-ROM drive appears
35.	Insert CD ROM with VIPS 1.2.00	Install SW from ./MIMOSA/VIPS1200[yes, no, ?, q]:

No.	Procedure Steps	Display / Comment
36.	Enter **yes**	Now the installation of the application software starts. The ORACLE database files, MIMOSA application files are copied to the Processing Station and the MIMOSA software is initialized with the old configuration data. This takes about 20 minutes. Then the message `Ok to reboot:` appears
37.	Enter **yes**	
38.	Reboot the Processing Station.	The following message may appear, depending on the used hardware: `Would you like to run the system flash PROM update now? (By default not to be updated)` The MIMOSA User Interface starts automatically.
39.	Enter **no**	
40.	If the old images do not appear, run a `<Check System>` via the controller button in the MIMOSA User Interface. It can take a while until the new images will show up.	
41.	Eject the DAT-tape	

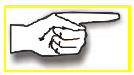
2.3 Installation of the Language Files



With this upgrade the language files are not saved. Therefore they have to be reinstalled.

No.	Procedure Steps	Display / Comment
1.	Go to <Maintenance>, enter password and hit <Return>	
2.	Insert language disk	
3.	Select: **2** to select Install and hit <Return> **7** to select Languages and hit <Return> **1** to select CopyLanguages and hit <Return> **4** to select FloppyEject and hit <Return>	All language files will be loaded. Appearing warnings can be ignored.
4.	Remove the floppy	
5.	Exit <Maintenance>	
6.	Reset the MIMOSA User Interface to get it in the language you had before the upgrade.	

2.4 Changing and loading the cpf –file



If the site uses non MG3 printers, changes in the cpf-file are necessary to complete the upgrade.

Use CCM-Tool version 1.1.06 or higher. Before use, the tool must be provided with the most recent film sizes table, which can be found on the printer definition file floppy which is in the VIPS release.

No.	Procedure Steps	Display / Comment
1.	Start CCM Tool	
2.	Insert floppy with printer definition files into floppy drive	

3.	Select
	`destination configuration`
	`hardcopy`
	`read new printer definition file from A:`
		By loading the CPF-File in the CCM-Tool, some necessary tables will be automatically updated, some other tables describing the site configuration must be updated manually:

4.	Select in CCM – Tool
	Table `Processing Station`
	`destination configuration`
	`processing station`
	`edit/add`	

5.	Activate `yes, accept all format printing` in `print processing` for upgraded Processing Stations	
6.	Load the new CPF-File on the upgraded ID-Stations, Processing Stations and on the Digitizers	

2.5 Limiting image storage

If the system has a hard disk space that is much larger than necessary for the amount of images the customer wants to have available, performance can be improved by limiting the image partition size.

No.	Procedure Steps	Display / Comment
7.	Select: **2** to select `Install` and hit `<Return>` **3** to select `Hardware` and hit `<Return>` **1** to select `Harddisk` and hit `<Return>` **4** to select `Disklimit` and hit `<Return>`	The default value on a freshly installed system is '0', which means no maximum is set. The default maximum value is '27' GB (which is the maximum size VIPS is specified to work with). If your hard disk size is smaller than 27 GB, e.g. 18 GB, only values lower than '18' have an effect on the image storage size. Per image 7 MB can be assumed so if you want to limit it e.g. on about 1000 images you have to set value ´7´. `Do you want the disk limit enabled ?`
8.	Enter < yes >	`Disk Size Limit [default 27 | current 0] [1-27,?,q]`
9.	Enter < 7 > e.g.!	If you want to verify your set size, enter again `4 Disklimit` The set size will be shown.

2.6 Automatic reboot

The system will be more stable if it is regularly rebooted. Depending on the availability needs of the customer, the reboot can be set to be done daily, weekly or monthly at a specific day and time.
The default values are:

- Autoreboot: on
- Reboot time: 01:00
- Reboot frequency: Once a week
- Reboot day: Monday

No.	Procedure Steps	Display / Comment

10.	Select:
	2 to select `Install` and hit `<Return>`
	6 to select `TimeSettings` and hit `<Return>`
	4 to select `ConfigureReboot` and hit `<Return>`
	4 to select `Disklimit` and hit `<Return>`
		The following text appears:
		`The system is currently rebooted automatically...`
		`...weekly on day 1 at 1:45`
		`Do you want to change this settings? yes/no [default no] [yes,no,?,q]`

11.	Enter <`yes`> for changing the settings	`Autoreboot on/off [default on | current on] [on,off,?,q]`
12.	Enter `<on>`, if not already set	`Time of the day (24h-format=HH:MM) [default 01:45 | current 1:45] [?,q]`
13.	Enter requested reboot time	`Reboot Frequency [default weekly | current weekly] [daily,weekly,monthly,?,q]`
14.	Enter requested reboot frequency	`Day of the week (Sunday=0..Saturday=6) [default 1 | current 1] [0-6,?,q]`
15.	Enter requested day of the week	
16.	To make settings active carry out a reboot of the system	

2.7 Installation of the "Printer Definition Files"

For the installation of the printer definition files, please see Appendix D of this document.

2.8 Switching from NIP to XIL Interpolation

After upgrade to VIPS 1.2.00 the interpolation mode is set to NIP. Steps 17. to 19. can be skipped if the interpolation mode should be NIP.

No.	Procedure Steps	Display / Comment

17.	Select:
	2 to select `Install` and hit `<Return>`
	13 to select `Interpol` and hit `<Return>`
		The following text appears:
		`Currently using NIP interpolation`
		`Use NIP or XIL [NIP, XIL, ?,q]`

18.	Enter `<XIL>` for selecting this interpolation mode.	`Interpolation set to XIL (after reboot)`
19.	After the mode is changed, hit `<q>` to times	
20.	To make change active carry out a reboot of the system	

2.9 Configuring the L/R annotation

If the customer is going to use the Advanced Annotation license, then the L/R annotations have to be configured. This is done via the MIMOSA UI Controller – System Monitoring – Set up – L&R Annotation.

2.10 Installing PowerChute UPS Software

Please note that the PowerChute UPS Software has to be reinstalled after the upgrade. Please refer to the Service Manual (Section 9 Accessories/ 1. UPS).
Note: The PowerChute UPS Software is on the Operating System CD and not on MIMOSA.

2.11 Finish Upgrade

To finish the upgrade, a customer specific backup has to be made on an empty floppy.

No.	Procedure Steps	Display / Comment
1.	Go to <Maintenance> and hit <Return>	
2.	Insert an empty floppy disk	
3.	Select: **2** to select Install and hit <Return> **10** to select Backup and hit <Return> **1** to select SiteSpecific and hit <Return>	Save Area backup on floppy or tape [floppy,tape,?,q]:
4.	enter **f** for floppy	
5.	After the backup is finished, hit **q** two times to quit.	
6.	Select: **4** to select Tools and hit <Return> **8** to select FloppyEject and hit <Return>	The Open Windows message may appear (This message also appears during first login/logout): Activate check here to disable this message and click <continue>.
7.	Remove floppy from floppy drive	
8.	Hit **q** two times to quit Tools menu	
9.	Exit Maintenance	
10.	Label backup floppy with the following data and store it in a save place:	

Label:

Site specific backup of:	*<hostname>*
For Version:	VIPS.1.2.00
Name:	*<Your Name>*
Date:	*<Current date>*

3 Consideration for Fresh Installation

In case a fresh installation will be done and the existing configuration should be used again, or the existing configuration should be transferred to another newly installed VIPS system: Save the site specific backup (Save Area backup) before the installation and copy it again after installation.
The procedure is as followed:

Neglecting steps 10 and 11 will make you end up with a system that will not even start the MIMOSA software anymore!!

No.	Procedure Steps	Display / Comment
1.	Go to `<Maintenance>` and hit `<Return>`	
2.	Insert an empty floppy disk	
3.	Select: **2** to select `Install` and hit `<Return>` **10** to select `Backup` and hit `<Return>` **1** to select `SiteSpecific` and hit `<Return>`	`Save Area backup on floppy or tape [floppy,tape,?,q]:`
4.	Enter **£** for `floppy`	
5.	After the backup is finished, hit **q** two times to quit.	
6.	Copy the CPF file from the system on floppy (you can use the same floppy)	
7.	Carry out the Fresh Installation - described in Service Manual -	
8.	Install the CPF file on the fresh installed system Insert the floppy disk created before	
9.	Go to `<Maintenance>` and hit `<Return>`	

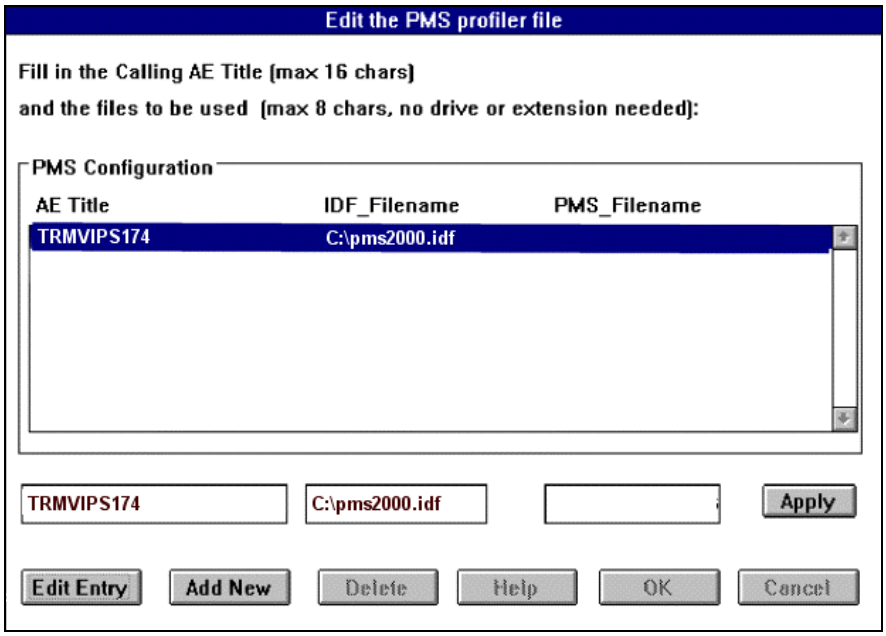
10.	Select: **2** to select `Install` and hit `<Return>` **1** to select `CPF file` and hit `<Return>` **2** to select `from floppy` and hit `<Return>`	
No.	**Procedure Steps**	**Display / Comment**
11.	Change the host name Select: **2** to select `Install` and hit `<Return>` **9** to select `hostname` and hit `<Return>`	
12.	Copy the former Save Area from floppy Select: **2** to select `Install` and hit `<Return>` **10** to select `Backup` and hit `<Return>` **1** to select `Restore` and hit `<Return>` **1** to select `site specific` and hit `<Return>`	

4 Printer Issues

4.1 Printer Set-Up for Smart Print

To make full usage of Smart Print, you have to adapt your LR 3300 and LR5200 controller, DI2000 and DI3000 printer. The file pms.ini has to be created/modified.

Add the entry into the file by using the IMOS DCM:



In the example the AE-Title of the Processing Station is [TRMVIPS174].
For each Processing Station in the network, which uses Smart Print, you have to create these two entries in your pms.ini file.

Otherwise true size printing will not give true size on film.

4.2 Supported Printers (in PRN.A.3.0.02)

Printer
3M - Imation 8100
3M - Imation 8300
3M - Imation 8500
3M - Imation 8600
3M - Imation 8700
3M - Imation HQ969
Codonics NP1600
Codonics NP1660
Agfa DI2000
Agfa DI3000 1114
Agfa DI3000 1414
Agfa DI3000 1417
Agfa DI4500
Agfa DI4500 Low Res
Agfa LR3300
Agfa LR5200
Agfa LR5200 High Res
Fuji CR-DP 3543 T
Fuji CR-DP L
Fuji CR-DP T
Fuji CR-LP 415
Fuji CR-LP D

Printer
Fuji IM 2636II
Fuji IM 3535II
Fuji IM 3543II
Fuji FL-IM DM
Fuji FM-DP 2636
Fuji FM-DP 3543
Fuji FM-DP L
Fuji FM-IM D
Kodak KELP100XLP
Kodak KELP1120 DPS
Kodak KELP1120 PIU
Kodak KELP2180 DPS
Kodak KELP2180 PIU
Kodak MLP-190
Kodak XLT7720
Sterling DI200
Sterling DI400
Sterling LP400
Sterling SIJ100
Sterling SIJ400
Sterling SIJ400 Paper

5 Solved Problems from VIPS.1.1.09 to VIPS.1.2.00

If you upgrade from VIPS.1.1.09 the following problems have been solved in addition to the ones mentioned in chapter 1.

Annotation

- Distance annotations could be drawn out of the image into the gray background of the UI which resulted in a wrong measurement value.
- If a measurement was done too close to the border of the image, the measurement value could appear outside the image in the gray background.
- The angle values sometimes were on the wrong side of the angle.
- L and R signs were not in the local language
- Calibration after grid : If grid was applied to an image together with length calibration, and the image was printed then, the grid line distance was not correct on the hardcopy.
- Distance values were printed as approximated values (rounding error)
- Annotations created in zoom mode could not be deleted in zoom mode
- Annotations sometimes were not rotated on Print/PACS if not saved before
- Annotations sometimes were not printed or sent to PACS

BigLog

- Logfiles sometimes grew significantly in a short period and filled up the file system. This blocked the Processing Station.

Flags

- Smartprint: print flag is set only for one image if a multi-images film layout is selected
- not sent images were displayed as sent
  If sending to a PACS destination failed or was canceled, the sent flag remained set.
- If an image with status hold was deleted from the output queue of VIPS and then the Proceed button on Preview St was pressed, the flag was set.
- If an image with status ‘hold’ has been released by Proceed button on the Preview station, the print/sent flag was not set.
  The current behavior is, that the image status flag is linked to the job status of output queue (displayed in system monitoring). Images with a job in status ‘queued’, ‘active’, ‘ended’ or ‘on hold’, caused by repeated trials, have a status flag printed/archived set. This means that not all images with the status flag printed/archived are really saved and need manual intervention to be processed (e.g. jobs ‘on hold’ need to be released in the output queue).

Licenses

- License could not be switched on in Demo mode in maintenance menu
- If an incorrect license number was entered, then any subsequently entered license numbers were not accepted anymore

Queue Full

- VIPS is blocked by a PACS destination failure
  If a PACS or printer dest is not reachable and the user keeps on sending images to the output queue the system finally blocked completely. This happened because Autodelete was not able to remove the images as they were marked as still to be sent and were not released for deleting

Smart Print and All Film Format Printing

- If you did true size via smart print, the image is not centered in the GUI. If you re-centered it, and perform the print, it is still not centered on the hardcopy itself.
- Dose monitoring indicator not visible on hardcopies printed via smart print
- Smart print composer crashed, if image processing parameters should be included in the film text box. This only happened with the variable film layouts.
- Mirroring an image in the Smart Print Composer and then rotating it resulted in wrong image orientation In addition, a combination of image rotating and true size printing resulted either in a non true size print on non-MG3 printers or the rotation was not regarded
- The Print Composer did not start up when no MG3 format is present
- The number of copies in smart print was not reset after the job
- Failing online jobs on non-MG3 were not resubmitted automatically
- Problems with true size printing
  If in the print composer a printer together with true size printing was selected and you change to another printer then, the true size printing button cannot be selected anymore.
- Print Preview for true size images on the screen do not match with the actual hardcopy
- It was not possible to print to printers with film sizes A, A4
- The field Destination in the printer configuration file did not fully match with the DICOM defined terms in DICOM field “Film destination (2000,0040)”. DICOM allows three terms: MAGAZINE, PROCESSOR and BIN_i (i indicating the number of the tray). So far VIPS supported only MAGAZINE and PROCESSOR. For exampla, FUJI printers require BIN_i.

Study UID

- Patient data maybe associated with wrong image data Already solved since VIPS 1.1.11 was introduced.

Test Images

- Printing test images, quality control reports and Auto QC reports was only possible on 14” x 17” films on MG3 layout printers

User Interface Stability

- The appearance of newly arrived images at the Processing Station showed up very slowly or didn’t show up at all in the thumbnail browser.
- Push space bar crashed UI in open mode
- Open an image by double-click sometimes crashed the UI
- Thumbnail images flickered randomly
- Additional logging for User interface problems

Full leg / Full spine

- Sometimes auto stitching shifts image by one GRID line
- Distorted GRID lines/image at stitching borders (approx. 5 cm above and below the border)
- Sometimes the Full leg/Full spine program did not keep the requested order of the images but re-arranges them randomly.
- Full leg/Full spine sometimes presented the wrong orientation if images to stitch have been rotated and mirrored before.

Others

- Auto-reboot was not available anymore
- Leeds Phantom (Auto QC) sometimes marked good data (e.g. the parameter ‘log.sensitivity shift’) as a failure, although it was Ok.
- When software was reinstalled the monitor refresh rate was set to 66Hz. It should be 76Hz.
- If the queue settings in System Monitoring were changed once, further changes were not accepted anymore, although display pretended so.
- Sometimes Black Borders were not visible after manual collimation
- Faster access to Leeds Phantom Archive
- Wrong association request when querying DICOM destinations in the self test program
- Image with unknown exam kept retrying in input
- Changing the 'exam type' did not change 'body' part
- Patient sex naming does not follow the local language setting. It was always in English.

- It was possible to configure in the cpf – file a HOLD time lower than 60 seconds. Even if you now configure one lower it will be set to 60 seconds.

6 What´s new in VIPS.1.2.00?

- "Advanced Annotation" - offers a variety of new annotation functions, e.g. split screen zoom, recallable custom text annotation.
- If the customer is going to use the Advanced Annotation license, then the Left/Right annotations can be configured. This is done via the MIMOSA UI Controller – System Monitoring – Set up – L&R Annotation.
- Support of Agfa DI4500 printer
- New interpolation (NIP) for non-MG3 printers implemented (result of NIP interpolation is in comparison to XIL sharper)
- "Non –MG3 Printer Support" – offers usage of other film sizes than the traditional ones as well as online true size printing.
- Possibility of "DICOM Logging" for outgoing DICOM transmissions. (Switching on/off, see Appendix C)
- "JPG Compression" for transmission to PACS destinations configurable (Maintenance menu: 1-Install -> 12-Jpeg)
- Faster access to Leeds Phantom Archive
- New SUN OS "Solaris 2.8"
- New icons and symbols for desktop introduced (see user manual)
- New version of “Printer Definition Files” version PRNA.3.0.02
- Possibility to set image partition size

7 Open Issues

- Although configured in the cpf –file, the warning sign that the image has been re-processed is not shown on hardcopies printed with variable layouts.
- The system can be very slow when an image is opened at the same time another image comes in and is printed to DI4500 (NIP interpolation) For instance, opening an image may take longer than 30 sec or returning from open mode to thumbnail browser more than a minute.
- ADB may merge wrong patients when user leaves the accession number field blank.
- Customer text annotation may not exceed 20 items.
- Flag send/printed is confusing.

- Wrong time-out used in hold-link mode Work around: both time-outs should be the same.
- German date format: German date format not correct. Work around: configure Swiss format.

8 Frequently asked Questions

(1) Do I have to make any changes in the cpf-file?
Only if non-MG3 printers are installed on the system (see 1.4 Configuration).

(2) Is the ADB tool updated automatically or must it be adapted manually?
If you upgrade from VIPS 1.1.NN or elder, you have to copy the database.txt file manually in the local dir before upgrading. If you upgrade from VIPS 1.2.NN, this is done automatically.

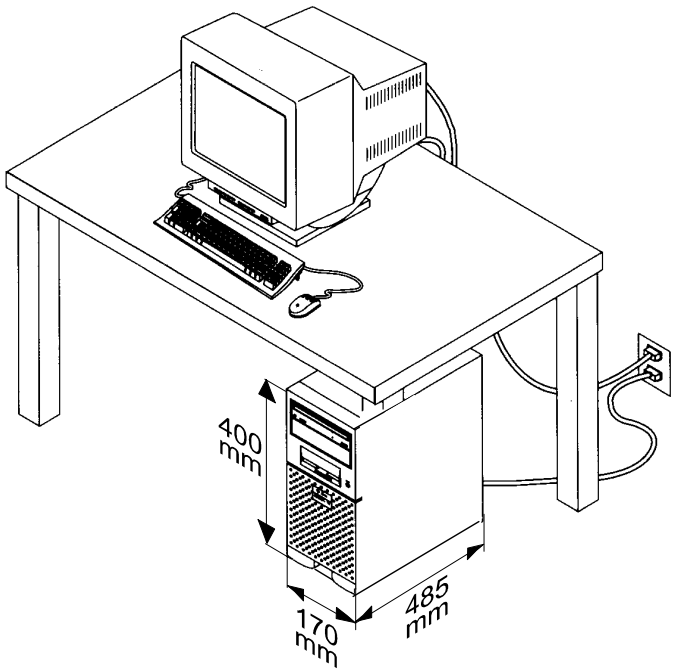
(3) Are the old “Printer definition files” still valid?
Basically, the upgrade keeps all printer definition files. It is, however, recommended to install the latest printer definition files together with any VIPS installation. If the user did not make personal changes in the file, it is always best to install the latest version of the floppy.

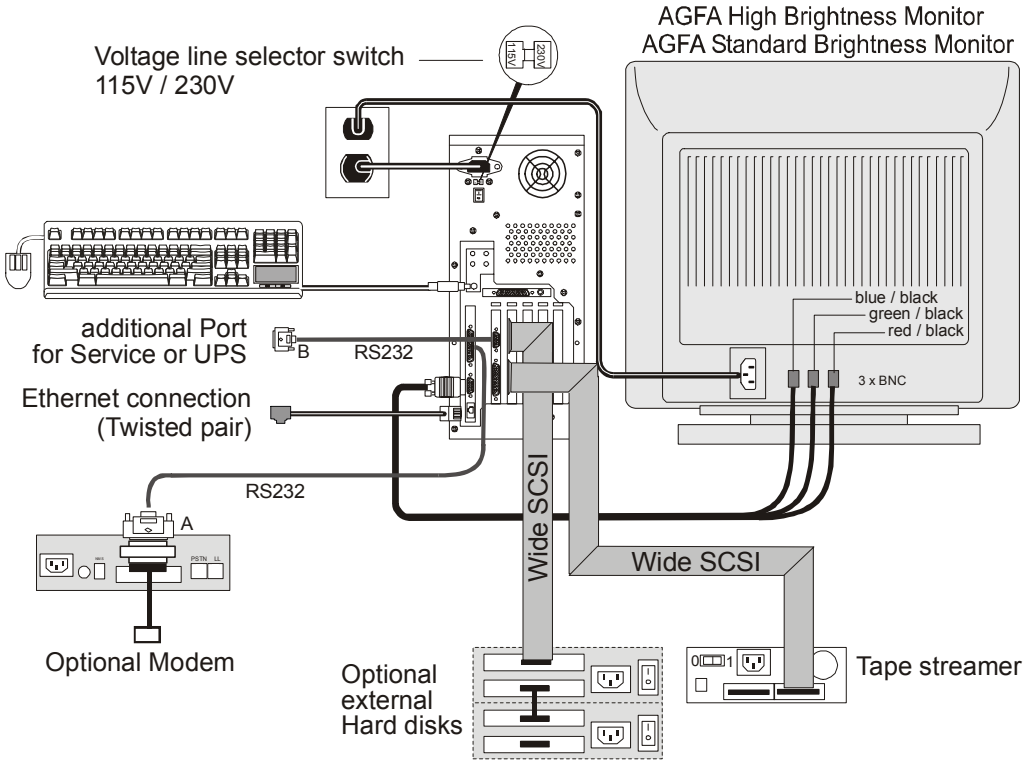
(4) Are the “Language files” kept when upgrading to VIPS.1.2.00?
Languages files must always be re-installed on upgrading

(5) What is the NIP interpolation?
The NIP interpolation is a new JAVA component for rendering the film image that is run separately on VIPS. It uses the same algorithm as is used on Agfa hardcopy devices and offers an optimized printing quality. On VIPS it is used for all non-MG3 print jobs, including Smart Print.
The NIP interpolation offers good print results, requires, however, quite a lot of system resources.
The user can select between NIP interpolation and XIL interpolation.

A: Processing Station connection diagram

Please do not use the field service bulletin DD+DIS183.98E as it is wrong.
Replace the corresponding page in that field service bulletin with this one.





B: Configuration of ADB on VIPS

a) When ADB is running, first stop ADB.

b) Create a database.txt file with the PC configuration tool

c) Manually add the complete path for the definition file in the database.txt by entering the command (via WordPad WordPad or other text editor):

/home/mimosa/irc/adb/cr-img.def

d) Copy this file into the /home/mimosa/irc/local directory.

e) Change the permissions to the database.txt file by entering the command:

chmod 777 database.txt

f) Copy this file into the directory: home/mimosa/irc/adb by entering :

cp/home/mimosa/irc/local/database.txt
/home/mimosa/irc/adb/database.txt

g) Enable the automatic startup of the ADB on boot by copying the S97adb script to the /etc/rc3.d directory: (must be root or su to root)

cp –p /home/mimosa/irc/adb/S97adb /etc/rc3.d

Remove this file from the /etc/rc3.d directory to disable automatic startup.

h) Modify the Archive destination(s) (in the cpf file, USE CCM tool) to connect to the local host.

h.1) Configure the archive destination in the application table with the IP address of the VIPS

h.2) Give them the port used for communication between VIPS and ADB (recommendation : higher than 5000).

h.3) Modify also the AS in the devices table.

h.4) Delete all AS from the network table.

i) Import the new CPF file

j) Reboot the workstation.

NOTES:

1. Copying the files in the local directory of the Unix workstation is done for safety reasons. This local directory is backed up during an upgrade of VIPS. Having a copy of the database file in the local directory allows you to recreate the database file after an upgrade of the VIPS.
2. The S97adb script calls the startadb script. The startadb script starts the adb and starts the watchadb script. If the adb ever terminates the watchadb script will restart it within 5 minutes. To shutdown adb on a running system, first kill the watchadb script and then kill adb.
3. If multiple adb applications must be run on the system, perform the following steps:

k) Copy the contents of the /home/mimosa/irc/adb directory to a new location

l) Edit the startadb script in the new directory and change the adbpath variable to point to the new directory.

m) Edit the /etc/rc3.d/S97adb file to add another startadb line pointing to the new startadb

C: Switching DICOM logging on/off

DICOM logging is a functionality that improves efficiency of service interventions concerning DICOM communication problems.

This is the implementation of DICOM logging for VIPS for outgoing streams. It enables to investigate into detail the DICOM communication between VIPS (SCU) and SCP (printer, archive station).

As it produces a lot of output, it is normally not used, and must be enabled by the service engineer as follows in a terminal window-

To **enable** it:

- Stop all background processes: IRC_stop_back &
- Set DICOM_LOGGING 1
- Restart the background processes: IRC_start_back &
- Now all DICOM output is logged in the OUT-logging.

To **disable** it:

- Stop the background processes
- Unset DICOM_LOGGING
- Restart the background processes

D: Description of the Printer Definition Files (P.D.F.)
Version PRN.A.3.0.02

1. General

Via the "printer definition files" non AGFA DICOM printers can be integrated into an ADC System. Each “printer definition file” contains information about one certain printer type and model. Parameters maybe supported film sizes, used media type or pixels per millimeter. The evaluation and release of these files is done by headquarter people. Thus, no manipulation of that files should be necessary in the field.

The printer definition files will be distributed independently from VIPS / CCM software releases in the future. They will be distributed when new connectivity to printers has been released (normally on a floppy with a version number (current version:PRN.A.3.0.02) or via MedNet. (MedNet path: Computed Radiology / ADC System Components / CSO Freeware / Printer Definition Files PRN.A.3.0.02) The current version of that “printer definition files” will be included in the upgrade package for the VIPS.1.2.00.

From VIPS.1.1.09 and CCM.1.1.05 on, there is a possibility provided to download the newly released “printer definition files”. Please note that the current version PRN.A.3.0.02 of the "printer definition files" is not integrated as default in the printer list of CCM 1.1.06. It still has to be downloaded to the CCM.1.1.06. The procedure is described below.

The "printer definition files" have already been introduced with VIPS 1.1.05 to send to non AGFA DICOM Printers and increase the number of print layouts for the SmartPrint option. However, we did not yet have the flexibility there to update the “known printer” database in the CCM and VIPS software respectively, without upgrading the software. This is now possible in an easy manner.

2. Description of the Printer Definition Floppy

The release of P.D.F. is managed by Integration Engineering, whereas the distribution is done by MI CSO. Each set of P.D.F release has a version encoded as `PRN.X.n.n.nn`
The contents is:

- Multiple `PRINTER-ID.txt` printer definition files for VIPS, containing date and version for IE version management
- `PRINTERS.prd` listing file for VIPS Maintenance menu procedures. This file contains for each printer definition file on the floppy a line with these fields:

```
# printer      file               comment
PRINTER-ID     PRINTER-ID.txt     Free text
...            ...                ...
```

- `Printers.mdb` file for CCM tool, containing tables for printers and film sizes, containing the version `PRN.X.n.n.nn` and date
- `VERSION` file, containing version PRN.X.n.n.nn and date

3. Installation of the Printer Definition Files

Make sure you are installing a set of printer definition files (PDF) that is compatible with the cpf-file that is used on this system

Current configuration:

- Printer definition file floppy PRN.A.3.0.02
- CCM – tool 1.1.06
- VIPS 1.2.00

4. Installation on the Processing Station

The upgrade of the set of P.D.F.s in your VIPS software may make it necessary to redo some printer settings in the cpf-file with CCM.1.1.06. Please consider that if you have printing problems after the upgrade, redo the cpf-file with CCM 1.1.06

No.	Procedure Steps	Display / Comment
1	Go to **<Maintenance>**, enter password and hit **<Return>**	
2	Insert "Printer definition files" floppy disk	
3	Select: **2** to select **Install** and hit **<Return>** **8** to select **Printers** and hit **<Return>** **1** to select **CopyPrinters** and hit **<Return>**	Files are copied. You are asked to confirm every file that has to be overwritten.
4	Exit **<Maintenance>**	

5. Installation on CCM.1.1.06

CCM.1.1.06 requires the installation of P.D.F - PRN.A.3.0.02

No.	Procedure Steps	Display / Comment
1.	Start CCM.1.1.06 tool	
2.	Click button **<Destinations configuration>**	
3.	Click button **<Hardcopy>**	

No.	Procedure Steps	Display / Comment
4.	Insert Printer definition file floppy PRN.A.3.0.02 into floppy drive	
5.	Click button **<Read new printer definition file from drive A:>**	Comparison of current version and version on floppy takes place
6.	Click **<Yes>** to import from floppy	Printer definition files successfully imported
7.	Click **<Ok>**	
8.	Restart CCM.1.1.06 tool to integrate the new file	

6. Special Configuration Items in the Printer Definition Files

Activating Film Orientations on the Processing Station for printers with insufficient RAM for image rotation:

Due to a lack of memory (RAM) some printers only support one film orientation for certain film sizes. There is a possibility to activate the other film orientation by editing the concerned "printer definition file". From VIPS 1.1.09 on, the Processing Station provides the possibility to rotate the image in a background process. The image is then sent to the printer and printed on the available film orientation. The printer does not have to rotate the image locally.

This setting is activated as default for the Sterling LP 400, which only prints 14" x 17" film in portrait orientation. By adding the entry "HCP_ORIENTATION PORTRAIT" to the settings for the 14" x 17" film in landscape orientation, the rotation of the image will be done on the Processing Station.

Extract of the file:

```
$FILMID              "14 X 17 IN - P"
    FILMSIZE                 14INX17IN
    RESOLUTION               STANDARD
    ORIENTATION              PORTRAIT
    ROWS                     4972
    COLS                     4170
    PIXELS_PER_MM            12.1270
$END

$FILMID              "14 X 17 IN - L"
    FILMSIZE                 14INX17IN
    RESOLUTION               STANDARD
    ORIENTATION              LANDSCAPE
    HCP_ORIENTATION          PORTRAIT
    ROWS                     4170
    COLS                     4972
    PIXELS_PER_MM            12.1270
$END
```

E: Application Note CR Systems: VIPS 1.2 Software

Main functionality changes compared to VIPS 1.1.XX

1. Advanced Annotation:

General:
Advanced Annotation is activated as a separate license.
Advanced Annotation contains extensions to the existing annotation package as well as to the existing zooming and intra-image navigation functionality. This is especially useful for annotating Full Leg/Full Spine images or making precise measurements on detailed images.

1.1 Advanced Annotation offers a variable zooming factor.

1.2 Split Screen Zoom

1.3 Inter Split Screen Annotation

1.4 Recallable Custom Text Annotation
Restricted to 20 at this moment (bug)

1.5 Drag and Drop Annotation Editing

1.6 Horizontal/vertical Line

1.7 Line with Center Mark

1.8 Circle through Three Points

2. All Film Format Printing

All Film Format Printing is in fact the completion of non-MG3 printer support. This can be an AGFA-printer (e.g. DryStar 4500 or Sterling) or any supported non-AGFA printer.
VIPS 1.2.XX gives full functionality for DS4500 including Cubic Bispline Interpolation for optimal image quality.

3. Full Leg – Full Spine

3.1 New Full Leg/Full Spine Stitching Library

The new stitching library works with a standard image overlap as defined by the AGFA-cassette-holder. Plates that are exposed with a different overlap can be adjusted manually after stitching.

3.2 Full Leg – Full Spine image position

Images that are going to be stitched are selected bottom to top. They are automatically rotated 180 degrees. This way the system is easy to use in combination with the AGFA-cassette-holder.

3.3 Full Leg – Full Spine drag and drop

When preparing a number of images to be stitched, they can be dragged from one position to another.

4. Miscellaneous

4.1 Archiving with JPEG Compression

4.2 L/R Annotation

The user can decide which text has to be used as L/R annotation, because in different languages, different conventions are used. This should be done once for each installed system.

4.3 Changing Patient Data in Info

Because of security reasons, users will no longer be allowed to change patient identification data in the info screen unless under certain conditions.
The change should apply only the the selected image in the info screen of which the change was made (unless the image was copied on VIPS, in that case all copies will be updated);
If patient identification data are changed, all references to the original patient in other fields are automatically removed.

4.4 ADB Tool

VIPS 12 includes version 1.9 of the *AGFA DICOM Bridge* (ADB Tool).

4.5 Auto-QC on Compact +

The Auto-QC-software can process images exposed with the Leeds Phantom that are scanned by the new digitizer Compact + or any digitizer that has a pixel width different to that of Compact and Solo.

5. Important remaining Bugs:

1. ADB may merge wrong patients when user leaves the accession number field blank !!!
2. Customer text annotation may not exceed 20 items.
3. Flag send/printed is confusing.
4. Wrong time-out used in hold-link mode Work around: both time-outs should be the same.
5. German date format: German date format not correct. Work around: configure Swiss format.